

- 15 -

Claims

I claim:

5        1. A process for producing non-blocking slats of amorphous propylene copolymer comprising:

10      (a) providing near the surface of an extrusion die, near or above the ring and ball softening point, an amorphous propylene copolymer composition comprising no more than about 90 weight percent propylene and up to 70 weight percent of an alpha olefin comonomer having 2 to 8 carbon atoms wherein the composition has a needle penetration of greater than 70 to less than 100 dmm at 23°C and a Brookfield Thermosel Viscosity below 1,000 cP at 190°C;

15      (b) coextruding the above amorphous propylene copolymer composition with a sheath of a low viscosity non-tacky polyolefin having a Brookfield Thermosel Viscosity of 100 to 50,000 cP at 150°C and a needle penetration of less than 20 dmm at 23°C, wherein said sheath is at a concentration of about 1 to 20 weight percent based on the total weight percent of the non-tacky polyolefin and amorphous propylene copolymer;

20      (c) contacting the coextruded amorphous propylene copolymer and sheath of non-tacky polyolefin onto a surface having a temperature below the ring and ball softening point of the amorphous propylene copolymer;

25      (d) cutting the coextruded amorphous propylene copolymer and sheath of non-tacky polyolefin below the ring and ball softening point of the amorphous propylene copolymer into slats, wherein the surface area exposed by cutting is

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- 16 -

less than 40 percent of the entire slat surface area such that the surface area of the slat that is sheathed in the low viscosity polyolefin is greater than 60 percent; and

5 (e) coating the cut slats with a non-tacky powder at a concentration of about 1 to 20 weight percent of the total cut slats.

2. The process according to claim 1 wherein the low viscosity non-tacky polyolefin is a polyethylene wax having a Brookfield Thermosel Viscosity of 3,000 to 10 5,000 cP at 150°C and is at a concentration of about 2 to 10 weight percent based on the total of polyethylene wax and amorphous propylene copolymer.

15 3. The process according to claim 1 wherein the exposed surface area is less than 30 percent of the total surface area of the cut slats.

4. The process according to claim 3 wherein the exposed surface area is less than 20 percent of the total surface area of the cut slats.

20 5. The process according to claim 4 wherein the exposed surface area is about 10 percent of the total surface area of the cut slats.

25 6. The process according to claim 1 wherein said non-tacky powder in (e) is a powdered polyolefin wax compatible with the amorphous propylene copolymer and has a Brookfield Thermosel Viscosity of 100 to 50,000 cP at 150°C.

30 7. The process according to claim 1 wherein the coextruded amorphous propylene copolymer and low viscosity non-tacky polyolefin is introduced into a cooling fluid after contacting the chilled surface prior to being cut in step (d).

35 8. A slatable amorphous propylene copolymer composition comprising no more than about 90 weight percent propylene and up to 70 weight percent of an

alpha olefin comonomer having 2 to 8 carbon atoms wherein the composition has a needle penetration of greater than 70 to less than 100 dmm at 23°C and a Brookfield Thermosel Viscosity below 1,000 cP at 190°C.

5       9. The composition according to claim 8 wherein a comonomer is selected from the group consisting of ethylene and hexene.

10      10. The composition according to claim 9 wherein the comonomer is hexene at a comonomer concentration of about 20 to 70 weight percent.

11. The composition according to claim 9 wherein said comonomer is ethylene at a comonomer concentration of about 10 to 30 weight percent.

12. The composition according to claim 8 wherein the needle penetration is greater than 70 to 95 dmm at 23°C.

13. The composition according to claim 12 wherein said needle penetration is about 75 to 95 dmm at 23°C.

14. The composition according to claim 8 wherein the viscosity is below 800 cP at 190°C.

15. The composition according to claim 8 wherein the composition is a multi-component blend of at least two different amorphous propylene copolymers wherein the resulting blend contains no more than 90 weight percent propylene and up to 70 weight percent of a comonomer selected from the group consisting of alpha olefins of 2 to 8 carbons wherein one amorphous propylene copolymer has a needle penetration below 70 dmm at 23°C and the other amorphous propylene copolymer has a needle penetration sufficiently high such that the resulting blend has a needle penetration between 70 and 100 dmm at 23°C.

16. The composition according to claim 15 wherein one amorphous propylene copolymer is a low tensile strength copolymer having a tensile strength of less

than 150 kPa, a needle penetration of at least 95 dmm at 23°C, and a viscosity of less than 1000 cP at 190°C and the other amorphous propylene copolymer is a higher tensile strength copolymer having a tensile strength greater than 150 kPa, a needle penetration of less than 70 dmm at 23°C, and a viscosity of at least 1000 cP at 190°C.

17. The composition according to claim 16 wherein the low tensile strength amorphous propylene copolymer is in a concentration of about 60 to 95 weight percent and the higher tensile strength amorphous propylene copolymer is in a concentration of about 5 to 40 weight percent.

18. An article of manufacture comprising a cut slat containing an amorphous propylene copolymer composition core comprising no more than about 90 weight percent propylene and up to 70 weight percent of an alpha olefin comonomer having 2 to 8 carbon atoms wherein the composition has a needle penetration of greater than 70 to less than 100 dmm at 23°C and a Brookfield Thermosel Viscosity below 1,000 cP at 190°C; said core coated with a sheath of a low viscosity non-tacky polyolefin having a Brookfield Thermosel Viscosity of 100 to 50,000 cP at 150°C and a needle penetration of less than 20 dmm at 23°C, covering at least 60 percent of the total surface area of said core; and the cut slat powder coated with about 1 to 20 weight percent of a non-tacky powder.

19. The article of manufacture according to claim 18 wherein the slat is flat having a thickness of about 1 mm to 2 cm, a length of about 1 cm to 20 cm, and a width of about 1 cm to 10 cm, wherein the thickness is less than the length and width.

20. The article of manufacture according to claim 19 wherein the cut slat has a thickness of about 1 mm to

1 cm, a length of 1 cm to 10 cm, and a width of about 1 cm to 5 cm.